

Appendix I. ICBM

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Soviet intercontinental ballistic missiles with nuclear warheads of one-half to four megatons impose a threat of an entirely new order of magnitude to the United States. We now believe that Soviet planners intend to acquire a sizeable ICBM operational capability at the earliest practicable date. However, we have insufficient evidence to judge the magnitude and pace of a Soviet program to produce and deploy ICBM's. The intelligence community estimates that a first operational capability of 10 prototype ICBM's will probably be achieved during 1959 and a capability of 500 ICBM's in 1962. With overriding priority and exceptional success in their test and production programs a significant force level could be achieved sooner.

Operational ICBM launching sites will probably be concealed upon completion and therefore should be photographed during construction to insure detection and analysis of the system components. Accurate location of Soviet ICBM launch sites and assessment of capabilities at the earliest possible date are a prerequisite to any effective defense or retaliatory action by the United States.

Our intelligence on the Soviet ICBM program is primarily based on fragmentary knowledge of test range activity and earth satellite firings. We have virtually no information on the Soviet ICBM military organization, on operational launching site locations, characteristics or mode of firing; on ICBM missile configuration, single or multiple staged; on Soviet philosophy of deployment; and little information on systems reliability or whether liquid or solid propellant.

The gravity of the threat of a Soviet offensive weapons system that could destroy or render ineffective 250 to 300 key U. S. Government control, military, and industrial targets within a matter of minutes is obvious. Hard fact information is critically needed with the least possible delay to properly assess the Soviet threat and provide the basis for development of effective defense and counter measures - the survival of United States as a democratic power may be at stake. The United States is at a distinct disadvantage vis-a-vis the U.S.S.R. in the whole field of missiles and missile intelligence and a major collection effort will have to be made to improve our position.

*Int* Studies over <sup>TALENT</sup> the past two years by the U. S. intelligence community have concluded that ~~the CHALLENGER overflight program~~ is the only available means offering reasonable assurances of obtaining the required intelligence concerning the Soviet ICBM program. These studies also conclude that overflight for this purpose has a much smaller attendant risk than the risks to the security of the U. S. in not acquiring this critically needed data. If Soviet operational launching sites are to be identified and characteristics and capabilities of the over-all Soviet ICBM system defined, authority must be given to use aerial reconnaissance far more widely.

While it is difficult to establish priorities between ICBM research and development, operational deployment and production, information on the Soviet guided missile research and development complex is considered most critical at this time. There are important questions which have not been resolved despite good photographic coverage of part of the TYURA TAM and KAPUSTIN YAR-VLADIMIROVKA test ranges during

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August and September 1957. Many important installations were not covered in the initial overflight and others appear on oblique photography only. Many technological changes are believed to have occurred during the past 17 months (many modifications underway were noted in the 1957 photography). Improved photography and larger cameras now in use by project aircraft would provide substantially greater readable detail. As a result of this, and experience gained and techniques developed, we should obtain information on missile characteristics, possibly including payload capabilities, number of stages and sizes of larger missiles, types of fuel used, guidance systems, communications and instrumentation employed, special handling equipment and techniques, and crew training activity. In addition, we believe we may discern leads and/or indications concerning the character of logistic support of operational ICBM's, particularly as it pertains to the degree of rail mobility, which should assist in subsequent search for operational sites. A basic problem is to determine whether ICBM launch is fully rail mobile or only rail supported. It is also considered possible that test launch sites may have been modified or expanded for an operational capability. Incidental coverage of STALINGRAD at the KY rangehead may also provide information on missile assembly and/or production.

It is our belief, despite lack of confirming evidence, that operational ICBM launch sites are currently being prepared by the Soviets. Missile activity, possibly associated with operational ICBM launch, is indicated at POLYARNYY URAL. We lack evidence on the characteristics of a Soviet operational ICBM launch site, i.e., whether it is fixed or mobile, hard or soft, and what equipment is employed. Soviet philosophy on operational deployment may not be known until several ICBM launch sites are photographed. We do believe that Soviet ICBM operations will be rail supported and that dispersal and concealment will be effected. Range and accuracy capabilities are probably factors which would limit geographical location at least in the early stages of deployment.

Concerning Soviet ICBM production, the industrial and technical capability for output of products involved in this weapons system is believed to exist. Certain knowledge on production would assist greatly in determining the nature and magnitude of the ICBM threat; however, it is not believed that such information could be gleaned from photography alone although valuable targeting data could be acquired.

In view of the aforementioned, an expanded top priority overflight program is recommended in the following order:

- I. Coverage of critical areas of the Soviet missile test ranges at TYURA TAM and KAPUSTIN YAR (see attached map).
- II. Reconnaissance search of the POLYARNYY URAL area and the supporting rail line KOTLAS-VORKUTA.
- III. Based on findings resulting from I and II, systematic search on a continuing basis of other suspect areas in the U.S.S.R., such as the URALS Complex.

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